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CHRISTOPHER P. MAIORANA, P.C.  
24840 HARPER SUITE 100  
ST. CLAIR SHORES, MI 48080

EXAMINER
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* THOMAS S. LAUBNER and ROBERT SCHILLING

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Appeal 2009-009390  
Application 09/966,221  
Technology Center 2800

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Before KALYAN K. DESPHANDE, DAVID M. KOHUT, and  
ERIC B. CHEN, *Administrative Patent Judges*.

KOHUT, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the final rejection of claims 1, 3-5, 7-15, and 18-36.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We affirm the Examiner's rejection of these claims.

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<sup>1</sup> Claims 2 and 16 were previously cancelled. Claims 6 and 17 have been indicated by the Examiner as containing allowable subject matter. Final 4.

## INVENTION

The invention is directed to a microstrip antenna that provides high gain at both low angles and the zenith through the use of an elevated ground plane and a dielectric lens. *See Spec: 3-4.* Claim 1 is representative of the invention and is reproduced below:

1. A microstrip antenna comprising:
  - a first conductive ground plane;
  - a dielectric substrate disposed on the first ground plane;
  - a patch disposed on the dielectric substrate;
  - feed means for electrically feeding the patch;
  - a dielectric lens for encapsulating at least a portion of the patch to increase radiation gain at an angle less than 45 degrees to said patch without significantly decreasing gain at zenith;
  - and
  - a second ground plane formed between the dielectric substrate and the first ground plane for raising the patch and further increasing the radiation gain at angles less than 45 degrees.

## REFERENCES

Murphy	US 4,051,477	Sep. 27, 1977
Nichols	US 5,831,577	Nov. 3, 1998
Openlander	US 6,157,348	Dec. 5, 2000

## REJECTIONS AT ISSUE

Claims 1, 3-5, 7, 8, 14, 15, 18, and 23-36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Openlander in view of Murphy. Ans. 3-5.

Claims 9-13 and 19-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Openlander in view of Murphy and Nichols. Ans. 5.

## ISSUES

### *Rejections over Openlander in view of Murphy*

Appellants argue on pages 6-16 of the Appeal Brief and pages 1-7 of the Reply Brief that the Examiner's rejection of claims 1, 3-5, 7, 8, 14, 15, 18, 23-25, 29-30, and 34-36 is in error. We select independent claims 1 and 15 as representative of the group comprising claims 1, 3-5, 7, 8, 14, 15, 18, 23-25, 29-30, and 34-36 since Appellants do not separately argue these claims with particularity. *See* 37 C.F.R. § 41.37(c)(1)(vii). Appellants argue that it would not have been obvious to combine Murphy with Openlander. App. Br. 6; Reply Br. 7. Appellants additionally argue that Openlander in view of Murphy does not disclose the claimed invention. App. Br. 16.

Thus, with respect to claims 1, 3-5, 7, 8, 14, 15, 18, 23-25, 29-30, and 34-36, Appellants' contentions present two issues: (1) Did the Examiner err in finding it obvious to combine Murphy with Openlander? (2) Did the Examiner err in finding that Openlander in view of Murphy discloses the claimed invention?

With respect to dependent claims 26-28 and 31-33, Appellants additionally argue that neither Openlander nor Murphy discloses achieving a particular gain at a specified angle. App. Br. 16.

Thus, with respect to claims 26-28 and 31-33, Appellants' contention presents the issue: Did the Examiner err in finding Openlander in view of Murphy discloses achieving particular gains at specified angles?

### *Rejection over Openlander in view of Murphy and Nichols*

Appellants argue on pages 17-18 of the Appeal Brief that the Examiner's rejection of claims 9-13 and 19-22 is in error. Appellants argue

that claims 9-13 and 19-22 are allowable for the same reasons as claims 1 and 15. App. Br. 17.

Thus, with respect to claims 9-13 and 19-22, Appellants' contentions present the same issue as claims 1 and 15.

### PRINCIPLES OF LAW

On the issue of obviousness, the Supreme Court has stated that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

The Examiner bears the initial burden of presenting a prima facie case of obviousness, and Appellant has the burden of presenting a rebuttal to the prima facie case. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Appellant has the burden, on appeal to the Board, to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).

### ANALYSIS

#### *Rejections over Openlander in view of Murphy*

Appellants' arguments have not persuaded us that the Examiner erred in rejecting claims 1 and 15. Claim 1 requires a dielectric lens with an elevated ground plane that increases radiation gain below 45 degrees without significantly decreasing radiation close to the zenith. Claim 15 recites similar limitations. The Examiner finds that the combination of Openlander's lens with Murphy's elevated ground plane corresponds to the claimed limitations. Ans. 3. Appellants admit that Openlander and Murphy

disclose the structure of the claim limitations. App. Br. 7. However, Appellants argue that there is no reason to combine Murphy with Openlander because the references disclose two separate ways to increase low angle radiation and there would be no benefit from the combination. App. Br. 8. We disagree.

The Supreme Court stated that an explicitly stated motivation to combine the references is seen as “helpful insight,” *KSR*, 550 U.S. at 418, but that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *Id.* at 416. In this situation, the Examiner finds that Openlander discloses a lens that lowers a radiation beam below 45 degrees and that Murphy discloses a microstrip antenna wherein the radiation angle is decreased by raising it above a second ground plane. Ans. 3. None of these findings are disputed and both systems disclose techniques for increasing low angle radiation. Therefore, we consider using Murphy’s raised ground plane with Openlander’s lens as nothing more than using known devices to perform their known functions of increasing low angle radiation. As such, we find that the combination of Murphy with Openlander yields the predictable result of increasing low angle radiation.

Appellants also argue that the prior art teaches away from the combination of Murphy with Openlander. App. Br. 9-12; Reply Br. 5-7. Appellants contend that the combination of Murphy’s elevated microstrip antenna with Openlander’s prism defeats Openlander’s goal of creating a low profile antenna. App. Br. 10; Reply Br. 5. We agree with the Examiner that both Murphy and Openlander disclose microstrip antennas and that an

increase in height does not mean that the antenna is no longer low profile, especially when the reference does not specifically define the term. Ans. 12.

Additionally, Openlander was merely relied upon by the Examiner for the teaching that a prism can be used with a microstrip antenna in order to lower the radiation beam below 45 degrees. Ans. 3. We conclude that such modification of the antenna is no more than a simple arrangement of old elements, with each performing the same function it had been known to perform, yielding no more than one would expect from such arrangement. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

The skilled artisan would “be able to fit the teachings of multiple patents together like pieces of a puzzle” since the skilled artisan is “a person of ordinary creativity, not an automaton.” *Id.* at 420-21. Appellants have presented no convincing evidence that modifying Openlander’s antenna containing a prism wherein the antenna is elevated as taught by Murphy was “uniquely challenging or difficult for one of ordinary skill in the art.” *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418). Thus, we do not find Appellants’ argument to be persuasive.

Appellants also assert that the combination of Openlander with Murphy would defeat the goal of both references, i.e., providing an antenna with low angle gain. App. Br. 12. Appellants contend that Openlander’s prism would change the radiation pattern of Murphy’s radiator and possibly reverse Murphy’s low angle pattern or make the radiation too narrow. App. Br. 12. In any case, Appellants argue that the proposed combination is unpredictable or creates an opposite effect. App. Br. 12. However, the Examiner finds that the combination is not unpredictable, but a complement

of one another. Ans. 14. Murphy lowers the radiation pattern along the lower ground plane and Openlander uses the prism to adjust the radiation pattern of the antenna. Ans. 14. Thus, a skilled artisan would employ both techniques in order to produce a continuous radiation pattern. Ans. 16. As such, we do not find Appellants' arguments to be persuasive.

Appellants argue that the combination of the references is based upon hindsight reasoning of the Examiner. App. Br. 14. Appellants' arguments are not persuasive of reversible error for the reasons stated in the Examiner's Answer. We add the following for emphasis.

First, as explained in *In re McLaughlin*,:

Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper.

*In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971).

Our review of the record establishes that the Examiner's case for obviousness is only based on knowledge which was within the level of ordinary skill at the time of the Appellants' invention and does not include knowledge gleaned only from the Appellants' disclosure.

Second, the Examiner identifies the relevant portions of each of the references relied on throughout the Examiner's Answer. *See* Ans. 3-5 and 14-16. To the extent that the Examiner relies on the knowledge of one of ordinary skill in the art to combine the teachings of the references, this practice is consistent with current case law. For example, the Supreme Court explains:



Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit. *See In re Kahn*, 441 F.3d 977, 988 (C.A.Fed.2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

*KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

In this case, the Examiner’s conclusions of obviousness are clearly articulated and are based on detailed factual findings that are supported by the references of record. *See* Ans. 3-5 and 14-16. Thus, we do not find Appellants’ arguments to be persuasive.

Appellants also argue that the combination of the references does not disclose the claimed invention since the gain at zenith decreases as the low angle gain increases. App. Br. 15-16. As a result, Appellants contend that the combination does not achieve the goals of the invention. App. Br. 16. We note that claim 1 requires increasing low angle gain without significantly decreasing gain at the zenith. Thus, Appellants’ argument is not commensurate in scope with the claim.

For the reasons stated *supra*, we sustain the Examiner’s rejection of claims 1 and 15 and claims 3-5, 7, 8, 14, 18, 23-25, 29-30, and 34-36 that have been grouped with claims 1 and 15.

Appellants' arguments have not persuaded us that the Examiner erred in rejecting claims 26-28 and 31-33. The Examiner has shown, and Appellants admit (App. Br. 7), that the structure suggested by the combination of Openlander with Murphy meets the limitations of claims 26-28 and 31-33. Ans. 3-5. As a result, the ordinary artisan would reasonably expect the properties of the antenna to inherently contain the particular gains at a specified angle. *In re Swinehart*, 439 F.2d 210, 212-13 (CCPA 1971) (“[T]he mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to those things to distinguish over the prior art.”);

Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product.... Whether the rejection is based on “inherency” under 35 U.S.C. § 102, on “prima facie obviousness” under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO’s inability to manufacture products or to obtain and compare prior art products. [Footnotes and citations omitted.]

*In re Best*, 562 F.2d 1252, 1255 (CCPA 1977).

The burden is, therefore, on Appellants to prove that the combination of Openlander with Murphy does not necessarily possess the claimed functional characteristic. However, on this record, Appellants have not carried that burden. Thus, we sustain the Examiner’s rejection of claims 26-28 and 31-33.

*Rejections over Openlander in view of Murphy and Nichols*

Appellants’ arguments have not persuaded us that the Examiner erred in rejecting claims 9-13 and 19-22. Appellants make the same arguments

with respect to claims 9-13 and 19-22 as with claims 1 and 15. App. Br. 17-18. For the reasons stated *supra*, we are not persuaded by these arguments. Thus, we sustain the Examiner's rejection of claims 9-13 and 19-22.

### CONCLUSION

The Examiner did not err in finding it obvious to combine Murphy with Openlander.

The Examiner did not err in finding that Openlander in view of Murphy discloses the claimed invention.

The Examiner did not err in finding Openlander in view of Murphy discloses achieving particular gains at specified angles.

### SUMMARY

The Examiner's decision to reject claims 1, 3-5, 7, 8, 9-13, 14, 15, 18, 19-22, and 23-36 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136 (a)(1)(iv).

### AFFIRMED

ELD